AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) A dual-stage optical isolator comprising:

a first stage disposed along an optical path, wherein the first stage includes a first wedge and a second wedge, the first wedge having ~~an~~ first optical axis that is different from ~~an~~ second optical axis of the second wedge; and

a second stage disposed along said optical path and including a third wedge having a third optical axis and a fourth wedge having a fourth optical axis, wherein the second stage is mechanically rotated with respect to the first stage by a first angular displacement and the second stage is optically rotated with respect to the first stage by a second angular displacement that is different from the first angular displacement. ~~and mechanically rotated 90° with respect to said first stage, wherein the second stage includes a third wedge and a fourth wedge and wherein the third wedge has an optical axis that is different from the optical axis of the first wedge and the optical axis of the second wedge.~~

2. (Previously presented) The optical isolator of claim 1, wherein said first stage comprises:

a first Faraday rotator disposed between said first and said second wedges, wherein the first wedge is a birefringent wedge having a first wedge angle and wherein the second wedge is a birefringent wedge having a second wedge angle.

3. (Original) The optical isolator of claim 2, wherein said first and second wedge angles are substantially equal.

4. (Previously presented) The optical isolator of claim 3, wherein said first Faraday rotator is configured to rotate the polarization of applied light by 45°.

5. (Previously presented) The optical isolator of claim 4, wherein said second stage comprises:

a second Faraday rotator disposed between said third and fourth wedges for rotating a polarization plane by 45°, wherein the third wedge is a birefringent wedge having a third wedge angle and wherein the fourth wedge is a birefringent wedge having a fourth wedge angle.

6. (Currently Amended) An optical isolator comprising:

a first stage configured to refract a light ray applied in a forward direction into a first ray and a second ray, the first stage having a first core including a first wedge with a first optical axis and a second wedge with a second optical axis that is different from the first optical axis; and

a second stage mechanically rotated 90° with respect to said first stage and configured to refract said first and second rays in a substantially parallel manner, the second stage having a second core including a third wedge with a third optical axis that is rotated 45° with respect to the optical axis of the first wedge and a fourth wedge with a fourth optical axis that is rotated 45° with respect to the optical axis of the second wedge., ~~wherein the third optical axis is different from the first optical axis.~~

7. (Previously presented) The optical isolator of claim 6, wherein said first ray is an e-ray with respect to said first stage and is an o-ray with respect to said second stage, and said second ray is an o-ray with respect to said first stage and is an e-ray with respect to said second stage.

8. (Original) The optical isolator of claim 7 further configured such that said e- and o-ray exit from said second stage having orthogonal polarizations and separated by a walk-off distance, thereby forming a plane.

9. (Previously presented) The optical isolator of claim 8, wherein said first stage comprises:

a first Faraday rotator disposed between said first and second wedges having a polarization plane rotation of 45°, wherein the first wedge is a birefringent wedge having a first wedge angle and the second wedge is a birefringent wedge having a second wedge angle.

10. (Original) The optical isolator of claim 9, wherein said first and second wedge angles are substantially equal.

11. (Previously presented) The optical isolator of claim 10, wherein said first Faraday rotator is configured to rotate the polarization of applied light by 45°.

12. (Previously presented) The optical isolator of claim 9, wherein said second stage comprises:

a second Faraday rotator disposed between said third and fourth wedges having polarization plane rotating angle of 45°, wherein the third wedge is a birefringent wedge and the fourth wedge is a birefringent wedge and wherein the third optical axis of the third wedge is 90 degrees apart from the second optical axis of the second wedge and the fourth optical axis is 45 degrees apart from the third optical axis.

13. (Previously presented) The optical isolator of claim 12, wherein said second Faraday rotator is configured to rotate the polarization of applied light by 45°.

14. (Previously presented) The optical isolator of claim 13, wherein a rotation direction of said first and second Faraday rotators is at least one of a same and opposite direction.

15. (Currently Amended) An optical isolator comprising:

first means for refracting a light ray applied in a forward direction into a first ray and a second ray, wherein the first means includes a first wedge and a second wedge, the first wedge having ~~an~~ a first optical axis that is different from ~~an~~ a second optical axis of the second wedge; and

second means, mechanically rotated 90° with respect to said first means, for refracting said first and second rays in a substantially parallel manner, wherein the second means includes a third wedge having a third optical axis that is rotated 45° with respect to the first optical axis and a fourth wedge having a fourth optical axis that is rotated 45° with respect to the second optical axis.~~, the third wedge having an optical axis that is different from an optical axis of the fourth wedge.~~

16. (Original) The optical isolator of claim 15, wherein said first ray is an e-ray with respect to said first means and is an o-ray with respect to said second means, and said second ray is the o-ray with respect to said rust means and is the e-ray with respect to said second means.

17. (Original) The optical isolator of claim 16, wherein said e- and o-rays exit from said second means having orthogonal polarizations and separated by a walk-off distance, thereby forming a plane.

18. (Previously presented) The optical isolator of claim 17, wherein said first means comprises:

a first rotator means disposed between said first and second wedges for rotating a polarization plane of applied light by 45°, the first wedge having a first angle and the second wedge having a second angle.

19. (Original) The optical isolator of claim 18, wherein said first and second angles are substantially equal.

20. (Previously presented) The optical isolator of claim 18, wherein said second means comprises:

a second rotator means disposed between said third and fourth wedges for rotating a polarization plane of applied light by 45°, wherein the third wedge has a third angle and the fourth wedge has a fourth angle.

21. (Currently Amended) A dual-stage optical isolator comprising:

a first stage comprising:

a first wedge having an optical axis of 45 degrees;

a second wedge having an optical axis of 90 degrees; and

a first rotator disposed between the first wedge and the second wedge; and

a second stage that is mechanically rotated relative to the first stage by 90 degrees, the second stage comprising:

a third wedge having an optical axis ~~of 0 degrees and~~ that is optically rotated from the optical axis of the first wedge by 45 degrees;

a fourth wedge having an optical axis ~~of~~ that is optically rotated from the optical axis of the second wedge by 45 degrees; and

a second rotator disposed between the third wedge and the fourth wedge.